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UNION CARBIDE CORPORATION
Silicones & Urethane Intermediates — Sistersville,WV

MEMO TO: D.G. Beddow — DATE: January 28, 1985

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SUBJECT: Polychlorinated Biphenyls (PCBs) -
Small Scale Production Heat Transfer System

Following discussions with R.L. Foster, I recently tested hydraulic and heat transfer systems for PCB contamination. The decision to retest these systems was made after a review of our PCB records late last year. During the review, I found that an initial plantwide survey for fluids possibly containing ≥ 50 ppm PCBs was conducted in late 1978. However, I also found that, because of personnel changes and the apparent misplacement of some of our files, we no longer had a complete history of the results of past PCB tests.

EPA regulations required an initial test of hydraulic and heat transfer fluids that ever contained PCBs no later than November 1, 1979. Any system with a PCB concentration of 50 ppm or more must be retested annually, and, within six months of any test showing ≥ 50 ppm, the system must be drained and refilled with a non-PCB fluid.

Of the 28 systems tested, the only one to fall into the legal definition of a PCB system (≥ 50 ppm PCBs) was the Small Scale Production Therminol 60 system. It contains between 73 and 190 ppm PCBs. The source of this PCB contamination was traced to a Therminol FR-O (80% PCB) heat transfer fluid which was used exclusively in the Small Scale system until mid-1972. In July 1972, at Monsanto's request, the system was converted to non-PCB Therminol 60. During the conversion, the Therminol FR-O was drained and the system flushed twice with non-PCB Therminol 55. The drained FR-O and Therminol 55 flushes were returned to Monsanto for disposal.

Now that analyses show the Small Scale heat transfer system contains PCBs, immediate action must be taken to ensure compliance with the applicable EPA regulations. I estimate that one draining/refilling operation would cost approximately $50,000. An alternative may be treatment of the contaminated fluid to destroy the residual PCBs using a Unison, Sun Ohio, or other similar process. I am now making initial contact with thest vendors. Regardless of whether the system is drained and refilled or the fluid treated, it must be done before June 3, 1985. Another test for PCBs must be conducted by November 1985.

Since November 1979, the regulations have prohibited the use of PCB heat transfer systems in the "manufacture or processing of any food, drug, cosmetic or device as defined in Section 201 of the Federal Food, Drug, and Cosmetic Act". Based on discussions with Drs. Mel VerNooy and Mary Gum (Tarrytown) and Mary Doerflein, I have compiled the attached list of Sistersville products with potential applications as food additives, cosmetic additives and/or drugs. As long as PCBs in the heat transfer system are ≥ 50 ppm, we should not make any of the listed products in Small Scale unless we are positive that it will not constitute the production of a Section 201 food, drug, or cosmetic. I have requested Bob Matthews (Danbury) to provide any legal advice needed concerning this issue.

In addition to the above mentioned rules, there are many other complex rules in the PCB regulation which require action on our part. These rules outline very specific requirements for the storage and disposal of PCB fluids, worker protection from dermal contact, placing "PCB" signs on equipment, recordkeeping, etc.

I recommend that you immediately establish a team with representatives from EP, Small Scale, IMPAC, and Purchasing to ensure compliance with all the regulatory requirements. A second goal would be to minimize any negative impacts on production. Failure to move quickly on regulatory compliance could result in substantial penalties by the EPA.

Ed Doerflein

E.L. Doerflein

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PRODUCTS WITH POTENTIAL FDC APPLICATIONS

SAG-100
SAG-710
SAG-720
SAG-730
Cyclomethicones (Volatile Silicones)
Dimethicones (L-45/all viscosities)
Simethicone
Simethicone Emulsion
L-720 for Becton-Dickenson
L-521/L-721
Silwet Copolymers (except L-77 and L-7607)